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ABSTRACT

During the first phase of a three-phase study of teaching basic reading skills in the secondary schools, 43 secondary-school reading classrooms were observed for three days, and the relationships between teaching processes and students' gains in reading were examined. Data were recorded with the Secondary Observation Instrument, and the Classroom Environment Scale was used to obtain students' perceptions of the instructional process. Student reading achievement scores and absence rates were also recorded. Analyses of the data indicated that (1) teacher reinforcement of correct responses and guidance for incorrect responses were positively related to reading achievement gains; (2) the frequency of reading related verbal interactions, including interactive instruction and oral reading, positively related to achievement; (3) the number of social interactions and off-task behaviors that occurred during the class had a negative relationship to achievement; and (4) a relationship existed between positive effect recorded in the classroom and student absence rates, with lower student absence rates associated with more positive and supportive classroom environments. Furthermore, greater gains in reading achievement were associated with these environments. (HOD)

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EFFECTIVE USE OF TIME

IN SECONDARY READING CLASSROOMS

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This paper reports the findings of Phase I of a three-phase study, Teaching Basic Reading Skills in Secondary Schools. The purpose of this study was to identify effective instructional strategies for teaching secondary students to read competently. The study was funded by the National Institute of Education as part of its effort to address a growing national concern about those students graduating from high schools who are functionally illiterate. This problem was dramatically illuminated in several malpractice suits filed against school systems by disillusioned parents of graduated students who could not fill out job applications or pass reading exams given by the United States Army (Saretsky, 1973).

Plummeting test scores from 1957-1975 reported by Harnischfeger and Wiley (1975) and confirmed by school districts throughout the country have stimulated many state legislatures and school boards to draw up lists of educational standards that students in high schools should meet at various stages of their education. The movement has spread so rapidly that all but four states now have competency tests for graduation.

Testing students to assess deficiencies in basic skills is useful only if strong remediation measures are taken. In several states, legislation mandates that all students failing the competency test must be provided with school programs that will make it possible for them to gain the skills required to pass the test. The requirement that secondary schools provide remediation for all of these students has had a great impact on school planning. We were particularly interested in how reading was being taught since a poor reader is likely to have difficulty in all subject matter classes. Our hunch was that strategies identified by research as being effective in

teaching reading in elementary classrooms would also be effective in teaching reading to secondary students.

Most of the research relating institutional processes to student outcomes has been conducted in elementary schools (e.g., Good, 1978; McDonald and Elias, 1976; Soar, 1973; and Fisher and Berliner, 1978). The process variables most often found to be related to achievement are carefully structured, teacher-directed activities and the amount of time students spent on reading tasks. The Brophy and Evertson (1974) study of seventh and eighth grades in Austin, Texas indicated that efficient teaching strategies for reading were related to student on-task behavior and that misbehavior had a negative relationship with achievement. In their study of first and third grade Follow Through classrooms, Stallings and Kaskowitz (1974) found an interaction between classroom process variables, student entering school scores, and student reading achievement scores. Comprehensive reviews of the effective teaching research can be found in the March, 1983 Elementary School Journal and in Jere Brophy's chapter in the Third Handbook of Research on Teaching, (in press).

A Brief Description of the Three Phase Project

This three phase study of Teaching Basic Reading Skills in Secondary Schools is unique among research studies in that it provided participating secondary school districts a process for using research findings in a regenerative way. In Phase I, 43 secondary reading classrooms were observed and the relationships between teaching processes and students' gain in reading were examined. The results of this study provided some very specific guidelines for efficient instructional strategies to use with secondary remedial reading students. Of the teachers in the study, 50% had training to teach

reading. Of those, only 20% had reading credentials. Interestingly, student achievement gain was not found to be greater in the classrooms of teachers with reading credentials. (Stallings, Needels, Cory and Fairweather, 1978).

In Phase II, findings regarding effective lesson design and classroom interactions were translated for use in a teacher training program. This program included a series of six workshops. These were provided to 47 teachers in seven school districts. One-half of the teachers in each district were trained and the other half were in a control group that did not receive training until the end of the experiment. The workshops were well attended and experimental teachers changed behaviors on 26 out of 31 variables in recommended ways. What is more important, their students made more reading gain than did students of teachers in the control group (Stallings, Needels, and Stayrook, 1979 and Stallings, 1980). Teachers were enthusiastic about the program and recommended that training be offered to other teachers in their districts.

To accommodate these requests, which were beyond the scope of our staff, we developed the Phase III dissemination program in which we monitored our trained teachers as they trained other teachers in their districts. This three-phase effort left the districts with a cadre of teacher trainers to carry on the process of training secondary teachers to use effective methods for helping students gain basic reading skills. The dissemination model was subsequently funded by the National Diffusion Network and 20 Certified Trainers are now administering the Effective Use of Time Program in 13 different states.

Only Phase I of the project which identified effective teaching

strategies will be reported in this paper.

Phase I Design

The Phase I design was based on two premises. The first was that teaching processes could be identified that predict test scores and absence rates at the junior and senior high school level. One second premise was that, at the secondary level, the processes related to achievement would be similar to those reported for elementary classrooms in the Follow Through Planned Variation evaluation.

Phase I was designed to test four hypotheses which were based on the empirical findings of the Follow Through Planned Variation study (Stallings and Kaskowitz, 1974):

1. Teacher reinforcement of correct responses and guidance for incorrect responses are positively related to academic achievement. The value of feedback has been well documented in learning theory and in the Follow Through studies.
2. The frequency of reading-related verbal interactions is positively related to student achievement in reading.
3. The number of social interactions that occur during class has a negative relationship with reading achievement.
4. Student absence is related to the positive effect recorded in the classroom, i.e., the more supportive the environment, the lower the absence rate.

These hypotheses were tested by examining the relationships between instructional process variables developed from data recorded with the Secondary Observation Instrument and from Student Rating of Instructor Scales, and student reading achievement and absence rates.

For one class period, 43 teachers representing six school districts were observed for three days (morning only). Reading scores from April 1976 to 1977 and student absence rates were obtained for as many students as possible in the classes being observed. Partial correlation and multiple regression analyses were conducted to test for relationships between instructional processes and changes on student outcome variables.

Selection of Schools and Teachers

Six San Francisco Bay Area districts were selected to be in the study on the following bases:

1. Each district had to offer remedial and/or compensatory programs in basic skills areas at the junior or senior high school level.
2. Each district had to administer standardized achievement tests each year to all students.
3. A mix of urban, suburban, and rural school districts had to be represented in the sample.
4. Each district had to be located in northern California to minimize travel and other data collection expenses.

Within each participating district, the local Director of Special Projects identified those schools offering remedial or compensatory reading instruction either directly as a special basic skills class or indirectly through a content area course. Teachers offering such instruction were then notified of the study and invited to an introductory informational meeting at their respective schools. At this meeting, the project was described and compared with previous teacher effectiveness research. Teachers were told what demands would be made on their time, what services were required during the course

of the study, and what benefits they could expect during Phase II. The research staff promised to provide individual feedback to each participating teacher regarding his or her own classroom behavior based upon the objective observations. At all sites, school administrators emphasized that participation was voluntary and, to the best of our knowledge, no pressure was exerted on teachers to participate. Criteria for acceptance in the study were that the focus of the class be on basic reading skills instruction, that the students enrolled in the class were likely to stay in that class all year, and that all students be tested with standardized achievement tests.

Of the 51 teachers who attended the informational meetings in December, 47 decided to participate in the study. At the time data were collected in the spring, four teachers decided not to participate. As a result, the sample initially included 43 classrooms with 905 students.

The study was designed to have an equal number of classrooms from each district. However, because it was impossible to complete that design, we accepted all teachers who volunteered to be in the study. Representation from the six districts is very uneven, therefore, no analysis could be conducted at the district level. Nevertheless, the cities and schools in which these classrooms are located are similar and different in several respects. Several demographic factors might affect the reading programs being provided, e.g., the amount of money available per student and the number of students with limited English speaking ability (see Table 1). These demographic differences were tested for effects upon reading scores.

Table 1

SAMPLE DISTRICT AND SCHOOL DESCRIPTORS

District-School	1 District Size	2 Per Pupil Expenditure	3 School Size	4 % Low Income	5 % Limited English Speaking	6 Number of Categorical Aid Programs	7 % Program Participants	8 Funding Per Participant
Fresno	54,749	1,331						
School A			612	79	1	3	100	487
School B			2,079	36	0	2	28	528
School C			1,286	43	10	2	92	441
School D			804	55	8	2	68	513
School E			905	20	5	1	57	522
Monterey	15,397	1,400						
School A			950	3	5	0	0	0
School B			787	4	5	0	0	0
Ravenswood	3,406	1,152						
School A			496	43	1	3	100	268
Salinas	15,447	1,475						
School A			1,926	17	15	2	19	461
School B			1,342	15	14	2	55	401
Sequoia	10,535	1,975						
School A			2,125	6	0	0	0	0
School B			2,080	6	0	0	0	0
Tulare	4,427	1,039						
School A			534	37	0	0	0	0
School B			555	16	0	0	0	0

Instruments

To describe classroom processes, we utilized a low inference classroom observation instrument that was modified for use in secondary reading classrooms. In addition, we had students complete a rating scale to assess their perceptions of their classroom processes and environment. Student outcomes were assessed by means of an achievement test given by the school district, and student absence data.

Secondary Observation Instrument (SOI)

The Secondary Observation Instrument (SOI) is based upon previous observations systems developed at SRI International. As a result of workshops conducted with secondary reading teachers, revisions were made in the instrument to permit the recording of events that occur in junior and senior high school reading classrooms.

The SOI is objective and comprehensive and provides a record of instructional and social activities that occur in the classroom. It records types of classroom activities, the materials being used, and the interactions between teachers and students. Three observations of one of a teacher's classes are made over a five to seven day period. During each observation, five equally spaced sweeps or snapshots of the classroom are made to record classroom activities, materials used, student groupings, and student off-task rates. Over the course of three observations, 15 such sweeps or snapshots are made. After each sweep, the observer focuses on the lead teacher and for five minutes records all persons with whom he/she interacts. The nature of each interaction--that is, for example, whether an interaction is academic, organizational, behavioral, or social and whether it is a question, command, comment, or response--is also recorded. A minimum of 750

interactions are recorded over three observations. The data collected are reported in terms of frequency counts or percents of time.

Reading Achievement Tests

District achievement scores were obtained for as many students as possible who were in the sample classrooms in the spring of 1977. All school districts used the CTBS (Comprehensive Test of Basic Skills) except for Fresno. Fresno administered the CAT. For the districts with CTBS data, a program was written to convert scores from the various forms and levels (Forms R,S,T and levels 2,3,4) to Form S/T standard scores.

Classroom Environment Scale

The Classroom Environment Scale, Form R (Moos and Tricket, 1974), was selected to examine students' perceptions of the instructional process occurring in the classroom. This particular scale was normed on a sample similar to our sample population. It yields nine subscales of four items each and can be completed in approximately 10 minutes. The subscale reports student perceptions of (1) involvement in classroom activities, (2) affiliation with others in the class, (3) receiving teacher support, (4) task orientation, (5) competition, (6) order and organization, (7) rule clarity, (8) teacher control, and (9) teacher innovation.

Absence Rate Form

Student attendance data were obtained from each classroom teacher. A form was developed by the investigators which listed each student by name and an identification number, the student's entry and leaving dates for that class, and total number of days absent--categorized by excused absences, unexcused absences and cuts. The total number of school days was also recorded.

Selecting and Training Data Collectors

Participating school districts selected data gatherers who they felt would be accepted by the teachers being observed. All data gatherers were credentialed teachers; some were retired and others were regular substitutes. Training occurred over a seven day period and included coding video tapes and checking interrater agreement. An 85% degree of accuracy was required of each coder on a final test coding a criterion tape.

Description of the Data Collected

Despite any researcher's efforts to create the best theoretical study plan, the realities of the experimental setting often require modification of that plan. This is especially true for those who attempt to study natural classrooms in real schools. During this study, several problems became apparent as the data were logged into the record.

As a criterion for being included in the study, we had asked that classrooms have students who were assigned to that class for the entire year. In four out of 43 classes, students were reassigned at mid-semester. We also asked that all classes focus upon basic reading skills, expecting that all students would be deficient in reading skills. We found that the grade equivalent scores of students within some classes ranged from Grade 2 to Grade 13. Most classrooms had some students scoring well above the 49th percentile on the Comprehensive Test of Basic Skills.

We relied upon achievement test data collected at the schools and asked that all classes have fall and spring CTBS data. In Fresno and Monterey, students were tested in the spring only. Since it was our largest site, we could not afford to eliminate Fresno from the sample.

Thus, we decided to use Spring 1976 and Spring 1977 test scores for all districts. Then we found that three different levels and four different forms of the CTBS had been used in the districts. In each instance, we converted the total reading raw score (for the CTBS form and level) to the appropriate standard score. While standard scores for Forms Q and R are equivalent, they must be converted for comparison to standard scores for Forms S and T. All test scores were converted into Form S/T standard scores.

One district had either Spring 1976 or Spring 1977 test data for their four classrooms. These could not be used in the analysis. One classroom with an enrollment of eight had pretest and posttest data for only one student. A decision rule was established that classrooms with fewer than one-third of the students with pretest and posttest data would not be included in the analysis. With this criterion, 36 of the 43 classrooms had sufficient test data to be included in the analysis that included classroom process and test score data.

We collected complete observation data for each of the 43 classrooms. Absentee reports were obtained from 35 teachers. Previous arrangements had been made with teachers to report absentee data for their classes, and they were given $10 for reporting these data. Seven hundred and eighteen students completed the Classroom Environment Scale.

Analysis

Since there was little research to guide us in our search for effective instructional processes to teach reading in secondary schools, we elected to use partial correlations (a shotgun approach) to identify significant relationships between the variables of interest. Given that secondary students needing remediation might range in reading level from first grade to sixth grade, classrooms were grouped to see how effective teaching processes might differ for different reading achievement levels.

Correlations

Our purpose was to identify how effective teachers used their available classroom time. To see how time was spent, the data were organized according to time spent in management and organization, interactive instruction, student seatwork, and off task behavior (see Table 2).

TABLE 2

PARTIAL CORRELATIONS OF READING CTBS SCORES AND PROCESS VARIABLES

	r	p
ORGANIZING		
Organizing interactions	-.34	.05
Teacher organizing (alone)	-.24	.05
Teacher offers students choices	-.33	.05
Intrusion/Interruptions	-.25	.05
INTERACTIVE ON TASK INSTRUCTION		
Review/Discuss homework or seatwork	.40	.001
Teacher instructs/chalkboard	.23	.10
Students reading aloud	.59	.001
Praise and support	.25	.05
Teachers guide to correct solution	.52	.001
Drill and practice	.29	.05
SEATWORK		
Student silent reading	-.30	.05
Sustained silent reading	-.20	.10
Written assignments	-.21	.10
OFF-TASK		
Social interactions	-.52	.001
Negative interactions	-.29	.05

The correlations indicate that teachers who spent more class time organizing had students who made less gain in reading than did students in classrooms of more efficient teachers. A negative relationship was found between students' reading gain and teachers offering students a number of choices about materials and activities. Intrusions from loudspeakers, tardy students, and pull out programs were also negatively related to reading gain.

In classrooms where the teachers were effective organizers and provided more interactive instruction, students made more gain in reading. In this situation, the teacher reviewed and discussed homework or seatwork. Students were acknowledged or praised for correct work and guided to acceptable answers if the work needed correction. When presenting new work, effective teachers used the chalkboard or overhead to structure lessons.

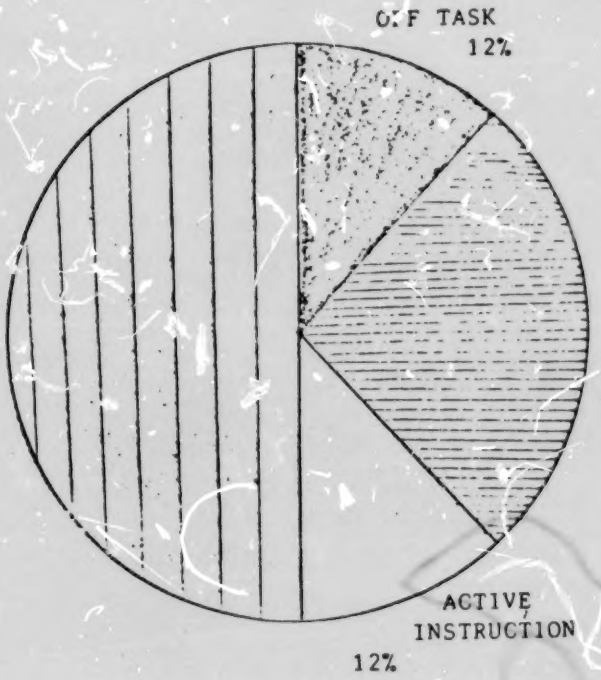
In classrooms where students more often read aloud, gains in reading were greater. The principal investigator went to the classrooms identified as effective and made anecdotal records of how teachers carried out oral reading activities and specifically how time was used. The strategies used in oral reading activities are explained in the following sections.

The indepth study of effective teachers indicated that those who allocated 35% or less of class time to seatwork had students who gained more in reading. Those teachers also actively monitored that seatwork. In our sample, the time students spent doing seatwork ranged from 3% to 90%. Thus, some students seemed to have been spending nearly all of their time in seatwork activities with few teacher interactions. High rates of seatwork were associated with high off task rates and with little reading gain (see Table 2).

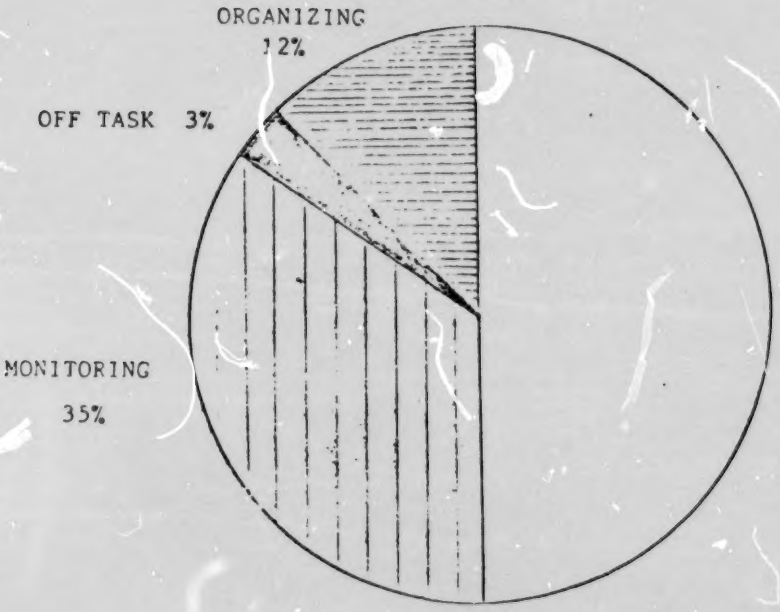
Overall, teachers on the average were found to distribute their time as shown in the top graph on Figure 1. Effective teachers distributed their time as shown in the bottom graph on Figure 1. Obviously, seatwork and organization are necessary. However, the benefit to student achievement is in the proportion of time teachers spend in interactive instruction. Teachers on the average spent only 12% of their classroom time providing interactive instruction. Teachers of classes experiencing the greatest gains in reading achievement spent more than four times that amount or 50% of their time, on interactive instruction.

Allocated Time

For a 50-Minute Reading Period



AVERAGE USE OF TIME



EFFECTIVE USE OF TIME

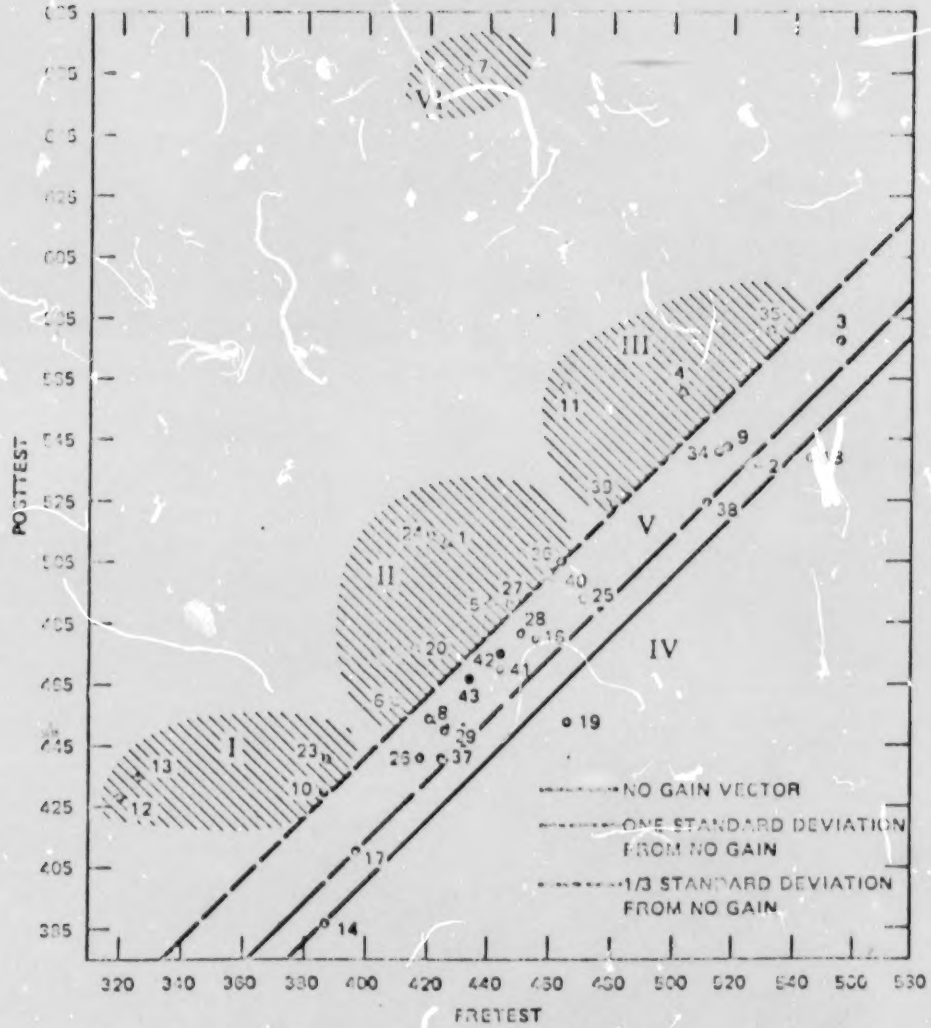
Figure 1

Comparison of Achievement Levels

Another objective of the Basic Skills Study was to examine the relationships between classroom processes and achievement in terms of defining those processes most relevant to producing high test score gains. In order to explore these relationships, "gain" must be tempered by the level of the pretest. It was hypothesized that a classroom with a pretest-posttest difference of 50 units and an initial low test level would differ in instructional processes from a classroom with an identical gain but a high pretest level. A scattergram plotting posttest score versus pretest scores of the 36 classrooms was created to attempt a clustering of classes on the basis of pretest level and amount of test score gain. For ease of interpretation, scores were transformed into grade-level equivalencies (see Figure 2).

The determination of achievement groups required several steps. First, a "no-gain" line was defined (posttest to pretest equals 0). Second, consistent with other studies of this type (McDonald, 1976), the gain line was set at one-third of the standard deviation of the mean class gain score above the no-gain line (see Figure 2). The no-gain group became those classrooms with posttest/pretest differences falling below the one-third standard deviation gain line. Twenty classes of 36 were classified as no-gain classrooms. The remaining 16 "gain" classrooms were assigned to three groups on the basis of their pretest scores. Group I initially had students achieving from the first to fifth grade level. In classrooms 10, 2, 13 and 23, students, on the average, made as much as two year's gain in one year. Seven Group II classrooms had students achieving at the fourth to sixth grade level who made one to two year's gain for the

year. Group III had students reading at sixth grade or above and also made impressive gains during the year.



Group I - Low Pretest/High Gain
Group II - Moderate Pretest/Moderate Gain
Group III - High Pretest/Moderate Gain
Group IV - No Gain
Group V - Slight Gain
Group VI - Case Study Classroom

FIGURE 2 SCATTERGRAM OF PRETEST AND POSTTEST — CTBS SCORES

The interesting question is what might those teachers be doing that is similar within groups but different across groups? To confirm the legitimacy of the four a priori groups, a stepwise discriminant function procedure was conducted using an F-to-enter criterion of .10. Based upon prior research findings and the utility of the variables in describing classroom processes, 19 variables were selected for the analysis. The results showed that eleven process variables and two discriminant functions correctly classified all the classrooms into the appropriate a priori groups. Therefore, the four groups should have differed in classroom processes. This analysis provided a measure of confidence in proceeding with analysis of within-group composition and inter-group differences.

Demographic characteristics of the four achievement groups are presented in Table 3. Between-groups comparisons showed that gain score differences could not be explained by class size or days absent.

Table 3

DEMOGRAPHIC CHARACTERISTICS OF THE ACHIEVEMENT GROUPS - PHASES I AND II

Group	Number of Classes	Number of Students		Days Absent		Pretest Scores (CTBS)		Posttest Scores (CTBS)		Gain	
		$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Phase I											
I Low Pretest/ High Gain	4	26.50	2.08	13.77	4.39	354.43	35.65	433.12	5.80	78.69	33.74
II Moderate Pretest/ Moderate Gain	7	23.00	7.37	15.86	4.71	423.25	19.30	492.77	20.00	60.52	21.20
III High Pretest/ Moderate Gain	4	25.50	4.04	8.80	5.67	495.71	29.50	557.91	24.93	62.20	25.46
IV No Gain	7	22.29	4.07	10.19	6.44	465.26	64.83	470.63	63.16	5.37	11.14

The principal differences between groups were found in how teachers spent the time available for instruction (see Table 4). Teachers in all gain groups (I, II, and III) were more effective managers of organizing tasks than were the no-gain teachers in Group IV. That is, teachers in the gain groups spent significantly less time completing organizational tasks than the no-gain teachers. The gain group teachers also provided more active instruction. These teachers started the class by reviewing the homework or seatwork, or they gave a quiz checking for understanding during the lesson.

ANALYSIS OF VARIANCE

Table 4

DISTRIBUTION OF TIME ACROSS ACTIVITIES IN
FOUR ABILITY GROUPS IN SECONDARY READING CLASSROOMS*

	Group I ($\bar{X}$ Percent)	Group II ($\bar{X}$ Percent)	Group III ($\bar{X}$ Percent)	Group IV ($\bar{X}$ Percent)
Interactive On-Task Activities				
Reading aloud	21%	9%	1%	1%
Instruction	16	11	17	10
Discussion/Review	12	5	3	1
Drill and practice	4	4	4	2
Praise/support**	19	16	7	11
Corrective feedback**	20	16	4	12
Non-Interactive On-Task Activities				
Classroom management	12	15	17	27
Reading silently	9	16	12	21
Written assignments	4	22	23	28
Off-Task Activities				
Social interactions	5	6	3	8
Students uninvolved	6	4	4	9

Notes: Group I--Low prestest/high gain
Group II--Moderate pretest/moderate gain
Group III--High pretest/moderate gain
Group IV--No gain.
$\bar{X}$ = Group mean.

* These activities may occur simultaneously; therefore, the sum is greater than 100%

** This variable is reported as frequency of occurrence per 300 interactions.

Teachers in Group I allocated more time than others to interactive activities. These teachers spent 32% of their time providing instructions and always structured and linked the new lessons with what was known. Drill and practice (4%) occurred only after students understood the concepts and vocabulary. Students in this group were provided oral reading activities 21% of the time.

The importance of oral reading has been stressed by several researchers (Hoffman, 1981; Chall, 1980). Hoffman, for example, argues that oral reading with provision for differential feedback is a valuable learning strategy. Chall and Hoffman encourage teachers to employ this teaching technique. Certainly the research presented here underlines the importance of oral reading for secondary reading students.

Given the controversy regarding the effectiveness of oral reading with upper grade students and our findings in Phase I that oral reading was an effective reading skill builder, the project leader made visits to the four high-gain (Group I) teachers' classrooms. In three classrooms, oral reading was conducted in small groups while other students did written work or silent reading. The teachers routinely developed vocabulary and concepts before asking students to read aloud. Oral reading activities were structured to develop comprehension, not just to have students say words. After students read a few lines, the teacher would quickly check for understanding. Specific praise or guiding corrections were generously provided. Students had opportunities to listen and speak as well as read silently and do written assignments. This combination of activities seemed to enable students to integrate what they were learning.

Teachers in Group II provided instruction, review, and drill and

practice about 20% of the time. They had children operating from approximately the fourth to sixth grade levels. The students participated in oral reading activities (9%) as well as written and silent reading activities. These teachers were second highest in providing praise and support and guiding corrective feedback.

Teachers of the more able students in Group III provided a healthy amount of instruction, some review and practice, but very little oral reading. Their students spent more time working independently on written and silent reading assignments than did the other two gain groups. Teachers in these classrooms actively monitored students' seatwork, e.g., checking for understanding and correcting errors.

Group IV teachers spent a greater proportion of time than all the others in classroom management activities and a smaller proportion of time in active instruction. Their students spent more time doing seatwork and were off task more often than students in other groups.

Student Ratings and Student Outcome Data

We thought it would be of interest to examine how students' ratings of teachers would relate to student achievement and absence rates. At the secondary school level it seemed likely that students could provide useful information regarding classroom process, by reporting their experiences in the classroom. Was the teacher prepared? Were the rules clear? Did the teacher keep control of the class? Partial correlations (holding Spring 1976 CTBS reading scores constant) were computed to examine the relationship between achievement and absences, and the student ratings.

Classroom Environment Scale

The Classroom Environment Scale has 36 items that were read aloud to students with the teacher absent from the room. The 36 items represent nine subscales of four items each. Table 5 reports the correlation of each subscale with student reading achievement.

Student involvement, the perception of students of their own involvement in the class, is mostly highly correlated with student achievement ($r = .27$, $p < .05$). The next highest correlations are with Teacher Support (.26), Task Orientation (.26) and Order and Organization (.25). These subscales suggest that reading achievement is greater in orderly classrooms where students are involved in their tasks.

Table 5

PARTIAL CORRELATIONS OF THE CLASSROOM ENVIRONMENT SCALE WITH READING ACHIEVEMENT*
(N = 718 students in 36 classrooms)

Subscales	r	p
Involvement	.27	.05
Affiliation		
Teacher support	.26	.06
Task orientation	.26	.06
Competition		
Order and organization	.25	.06
Rule clarity	.17	.16
Teacher control		
Innovation	.18	.13

*Spring 1976 CTBS reading scores were held constant.

Absence Rate

The absence rate of students in junior and senior high schools is a national problem. Average absence rates for the 35 classrooms reporting absence data ranged from from six days per student per year to 35 days per student per year. The burden on the teacher and the learner is great when students are absent frequently.

In the Follow Through Classroom Observation Evaluation 1972-73, we identified instructional process variables that accounted for 67% of the variance in absence rate in Grade 3 classrooms. In classrooms where the students had more choice of materials, activities, and work groups, and where they could ask questions and talk to each other a little more, they were absent less often. Based upon this prior research, we wanted to see whether similar classroom variables at the junior and senior high level related to student absence rate.

Pearson Product Moment Correlations

Correlations were computed using all of the student rating subscales and selected classroom process variables with absence rate. Out of the 140 correlations, 14 were significant at $p < .05$. Variables found significantly related to student absence rates are shown are on Table 6.

The subscale most related to low-absence rate is Affiliation. This indicates that students go to class more frequently when they feel that students in that class are friendly. This finding is interesting but not surprising. Most people at any age prefer classes where they know and like the other students. The second subscale most related to low absence rate is Rule Clarity.

Table 6

CORRELATION OF ABSENCE RATE AND PROCESS VARIABLES
(N = 35 Classrooms)

Variable Number	Description	r	p
A	Affiliation	-.60	.001
RC	Rule clarity	-.34	.05
TEM9	Teacher discusses reading	-.34	.05
TLM9	Teacher manages classroom	-.36	.05
IAM8	Students use leisure reading books	+.34	.05
IGMS5	Students do written assignments in reading kits	-.41	.01
10	Students ask teachers questions about the task	-.32	.05
77	All teacher's acknowledgment given to students' performance	-.32	.05
85	Teacher praises and acknowledges students for reading	-.38	.05
86	Teacher acknowledges student for reading and other tasks	-.33	.05
87	All praise and acknowledgment to students	-.36	.05
90	Guiding corrective feedback	-.35	.05
116	All positive interactions	-.32	.05
120	All warm supportive interactions	-.33	.05

In addition, these data suggest that in classrooms where teachers were warm and supportive (Var. 120) and acknowledged or praised students for achievement in reading of task-related work (Var. 77, 86 and 87) the students are absent less often (Variables 77 and 86 are a subset of Variable 87). In classrooms where the teacher spent time managing (Var. TLM9), held discussions (Var. TEM9), and made the rules clear (Var. RC), the students were absent less often.

An unanticipated relationship was found between leisure reading and absence rate. Students came to class less frequently in classrooms where they more frequently engaged in leisure reading. It would seem more likely that students would enjoy leisure reading and be absent less frequently in such classrooms. Perhaps such classrooms lacked rule clarity and more leisure reading may have been the result of less structure. Furthermore, leisure reading may relate to absence differently in sub-groups of classrooms depending upon reading skills.

The process variables related to absence rate in the Basic Skills Study are somewhat different than those found in the Follow Through Study of elementary classrooms. In the Follow Through Study, elementary students were absent less often when they were in open class structures, that is, when they had more choice about activities and made more social comments to each other. In the Basic Skills Study, secondary students were absent less often when they felt that other students were friendly, when the rules were clear, when they received positive reinforcement from teachers, and when they could ask questions about the reading tasks. However, data from both studies show significant relationships between warm, supportive, orderly classroom environments and low student absenteeism.

Summary of Findings

To summarize, these data from Phase I support our four hypotheses about the relationships between teaching processes and student achievement and absence rates in secondary reading classes. First, our analyses indicate that teacher reinforcement of correct responses and guidance when incorrect responses are given are indeed positively related to reading achievement gains. Second, the frequency of reading-related verbal interactions, including interactive instruction and oral reading, positively relate to achievement. Third, we found that the number of social interactions and other off-task behaviors that occur during class have a negative relationship to achievement. Finally, our data indicate that there is a relationship between positive effect recorded in the classroom and student absence rates. We found that lower student absence rates were associated with more positive and supportive classroom environments. Furthermore, we found greater gains in reading achievement associated with these environments.

Subsequent Analysis

The findings from Phase I were the basis for an experiment where 26 teachers were trained in a series of workshops to use the time allocations of strategies identified as effective in Phase 1. A control group of teachers was also observed and tested in a pretest and posttest design. The treatment teachers implemented 26 out of 31 variables and the students gained one year eight months on the CTBS Total Reading Test. Findings from Phase I and II correlations and analysis of variance were remarkably similar. Summarizing the two data sets, we established the criteria shown for Sarah Smith in Figure 3.

These criteria then form the basis for our recommendations for teacher change in behavior. The criteria is adjusted according to the achievement level of the students. This program, which has been related to teacher behavior change and student gain in reading, has been approved by the Federal Joint Dissemination Review Panel and is now funded by the National Diffusion Network as a program that works.

PROFILE OF SARAH SMITH

ACTIVITIES PER % OF TIME	R*	CRITERION	CRITERION PERCENT	TEACHER BASELINE PERCENT	TEACHER POST-OBSERVATION PERCENT
PREPARATION					
MAKING ASSIGNMENTS	LESS		7	8	
ORGANIZING	LESS		5	7	
TEACHER WORKING ALONE	LESS		3	15	
INTERACTIVE INSTRUCTION					
REVIEW/DISCUSSING	MORE		10	6	
INFORMING	MORE		20	14	
DRILL AND PRACTICE	OK		2	2	
ORAL READING	MORE		9	2	
NON-INTERACTIVE**					
DOING WRITTEN WORK	OK		25	20	
SILENT READING	LESS		9	20	
OFF-TASK					
STUDENTS SOCIALIZING	LESS		4	8	
STUDENTS UNINVOLVED	LESS		5	15	
TEACHER DISCIPLINING	LESS		1	6	

* R = RECOMMENDATIONS

**STUDENTS WORK ALONE.

Figure 3

PROFILE OF SARAH SMITH

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